

## **New materials based on tubular nanodimensional structures 1. Synthesis, structural studies and determination of interproton distances in solutions of functionalized thiacalix[4]arenes according to NMR spectroscopic data (NOESY)**

Stoikov I., Ibragimova D., Antipin I., Konovalov A., Gadiev T., Khairutdinov B., Karataeva F., Klochkov V.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### **Abstract**

New derivatives of p-tert-butylthiacalix[4]arene were synthesized. The conformation of the macrocycles and interproton distances in the synthesized thiacalix[4]arenes in solutions were determined by NMR spectroscopy. p-tert-Butylthiacalix[4]arene distally disubstituted at the lower rim adopts the cone conformation, and the tetrasubstituted products are formed in the 1,3-alternate conformation. © 2004 Springer Science+Business Media, Inc.

<http://dx.doi.org/10.1007/s11172-005-0112-z>

---

### **Keywords**

Alkylation, Nanostructures, NOESY NMR spectroscopy, Stereoisomers, Thiacalix[4]arene